

## **LISTING OF CLAIMS:**

This Listing of Claims supercedes all previous claims listings.

**1. (Withdrawn)** A capsular medical system comprising:

a radio receiving device in an extracorporeal device, to which a plurality of antennas are connected;

a radio transmitting device in a capsular in-body unit, which transmits medical data;

a switching device which switches antennas provided for the extracorporeal device;

a monitor device which monitors a receiving state of the selected antenna; and

a storing device which stores the receiving state every antenna,

wherein the monitor device comprises:

a data amount measuring device which measures the data amount of medical data transmitted from the in-body unit;

a timer device which counts the time required for transferring the medical data in units from the in-body unit; and

a calculating device which calculates a data transfer speed based on the data amount and the time required for transferring the data.

**2. (Withdrawn)** The capsular medical system according to Claim 1, wherein the data amount measuring device measures the data amount between two symbols which are added to the head and the end of the medical data.

**3. (Withdrawn)** The capsular medical system, wherein the timer device counts an interval from the time for detecting the symbol added to the head of the medical data to the time for detecting the symbol added to the end of the medical data.

**4. (Withdrawn)** A capsular medical system comprising:

a radio receiving device in an extracorporeal device, to which a plurality of antennas are connected;

a radio transmitting device in a capsular in-body unit, which transmits medical data;

a switching device which switches the antennas provided in the extracorporeal device;  
a monitor device which monitors a receiving state of the selected antenna; and  
a storing device which stores the receiving state every antenna,  
wherein the monitor device which monitors the receiving state comprises:  
a device which previously stores the data amount of medical data in units from the in-body unit;  
a timer device which counts a transfer requiring time of the medical data in units from the in-body unit; and  
a calculating device which calculates a data transfer speed based on the time required for transferring the data amount.

**5. (Withdrawn)** A capsular medical system comprising:

a radio receiving device in an extracorporeal device, to which a plurality of antennas are connected;  
a radio transmitting device in a capsular in-body unit, which transmits medical data;  
a switching device which switches the antennas provided in the extracorporeal device;  
a monitor device which monitors a receiving state of the selected antenna; and  
a storing device which stores the receiving state every antenna,  
wherein the monitor device comprises:  
a storing device which stores the lowest allowable value in the receiving state;  
a comparing device which compares the receiving state with the lowest allowable value;  
and  
a switching instructing device which issues an instruction for switching the antenna.

**6. (Withdrawn)** A capsular medical system comprising:

a radio receiving device in an extracorporeal device, to which a plurality of antennas are connected;  
a radio transmitting device in a capsular in-body unit, which transmits medical data;  
a switching device which switches the antennas provided in the extracorporeal device;  
a monitor device which monitors a receiving state of the selected antenna; and  
a storing device which stores the receiving state every antenna,

wherein the monitor device comprises:

a first timer device which counts a time required for transferring the medical data in units, which is transmitted from the in-body unit;

a second timer device which counts a time required for transferring the medical data in units, from the in-body unit;

a calculating device which calculates a data transfer speed based on stored data amount and the time required for transferring the data; and

a position calculating device which calculates the position of the in-body unit based on the data transfer speed of each of the plurality of antennas.

**7. (Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising having a communication device for communication with the in-body unit, which is arranged outside the human body; and

at least two antennas connected to the extracorporeal device and ~~which are~~ arranged near the body surface to communicate data to the in-body unit ~~connected to the extracorporeal device,~~ the extracorporeal device ~~capsular medical system~~ further comprising:

a switching device which switches the antennas;

a timer which is set to a predetermined time interval; and

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit, for transmitting to, and a receiving state where from, the extracorporeal device carries out reception from the in-body unit,

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting in accordance with a ~~detected~~ communication state detected by the detecting device at the predetermined time interval set by the timer of one of receiving and transmitting.

**8. (Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or

swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are~~ arranged near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal further comprising:

a switching device which switches the antennas;

a timer, which is set to a predetermined time interval;

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit, for transmitting to, and a receiving state where for receiving from, the extracorporeal device carries out reception from the in-body unit; and

an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state[[],];

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting in accordance with the communication state detected by the detecting device and at the predetermined time interval set by the timer, to control the antenna selecting device to select the antenna~~operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting, and the antenna selecting device performs the operation within a time interval set by a timer.~~

**9. (Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are~~ arranged near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal~~

device;

a switching device which switches the antennas;

a timer, which is set to a predetermined time interval;

a detecting device which detects, at the predetermined time interval, a communication state including transmitting state where the extracorporeal device carries out transmission to the in-body unit, and a receiving state where from the extracorporeal device carries out reception from the in-body unit; and

an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state,

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting at the predetermined time interval set by the timer, and when operation for connection for the transmitting or receiving is not establishable, the antenna selecting device is controlled to select the antenna~~operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting, and the detecting device performs the operation within a time interval set by a timer and, when a communication state is deteriorated, the antenna is switched.~~

10. **(Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are arranged~~ near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer, which is set to a predetermined time interval;

~~a detecting device which detects a communication state including transmitting to and~~

~~receiving from the extracorporeal device; and~~

an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state~~[[,]]; and~~

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit and a receiving state where the extracorporeal device carries out reception from the in-body unit;

wherein the detecting device detects communication states of antennas of a predetermined number less than a number of all of the plurality of antennas; and

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting in accordance with the communication state detected by the detecting device and at the predetermined time interval set by the timer.

11. **(Original)** The capsular medical system according to Claim 10, wherein the antenna whose receiving and transmitting state is checked is determined based on the antenna which currently receives data.

12. **(Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are arranged~~ near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer, which is set to a predetermined time interval;

a detecting device which detects, at the predetermined time interval, a communication

state including a transmitting state where the extracorporeal device carries out transmission for transmitting to the in-body unit [[, ]] and a receiving state where for receiving from, the extracorporeal device carries out reception from the in-body unit; and

an antenna selecting device which detects a receiving strength, in the in-body unit, of signals transmitted from at least two antennas and selects the antenna in a preferable receiving and transmitting state, ~~the capsular medical system further comprising; and~~

a storing device for storing the receiving and transmitting state, which stores the communication state detected by the detecting device;

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting at the predetermined time interval set by the timer, and when the receiving strength data is not obtainable in the selecting of the antenna by the antenna selecting device, the extracorporeal device refers to the communication state stored in the storing device to control the antenna selecting device to select the antenna that is assured to be communicable, when the receiving strength data is not obtained upon operating the antenna selecting device, the antenna able to communicate data is detected and selected to carry out the communication, and wherein the extracorporeal device operates the switching device at a switching timing synchronized with the receiving and transmitting.

**13. (Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising having a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are~~ arranged near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer which is set to a predetermined time interval;

~~a detecting device which detects a communication state including a transmitting state for~~

~~transmitting to, and a receiving state for receiving from, the extracorporeal device; and~~

an antenna selecting device which detects a receiving strength of a signal transmitted from the in-body unit by at least two antennas and selects the antenna in a preferable receiving and transmitting state[[],]; and

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit and a receiving state where the extracorporeal device carries out reception from the in-body unit, and which controls the antenna selecting device to select the antenna in accordance with the communication state detected by the detecting device and at the predetermined time interval set by the timer

~~wherein the extracorporeal device operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting the antenna selecting device operates within a time interval set by a timer.~~

14. **(Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are arranged~~ near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer which is set to a predetermined time interval;

~~a detecting device which detects a communication state including a transmitting state for transmitting to, and a receiving state for receiving from, the extracorporeal device; and~~

an antenna selecting device which detects a receiving strength of a signal transmitted from the in-body unit by at least two antennas and selects the antenna in a preferable receiving and transmitting state[[],]; and

a detecting device which detects, at the predetermined time interval, a communication



state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit and a receiving state where the extracorporeal device carries out reception from the in-body unit, and which controls the antenna selecting device to select the antenna when operation for connection for the transmitting or receiving is not establishable

~~wherein the extracorporeal device operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting, wherein the detecting device performs the operation within a time interval set by a timer and wherein when a communication state is deteriorated, the antenna is switched.~~

15. **(Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are arranged~~ near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer which is set to a predetermined time interval;

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit, for transmitting to, and a receiving state ~~for receiving from, where the~~ extracorporeal device carries out reception from the in-body unit; and

an antenna selecting device which detects a receiving strength of a signal transmitted from the in-body unit by at least two antennas and selects the antenna in a preferable receiving and transmitting state[.,,];

wherein the detecting device detects communication states of antennas of a predetermined number less than a number of all of the plurality of antennas, and

wherein the extracorporeal device synchronizes timing for switching the antenna with timing for switching communication direction of the receiving and transmitting in accordance

with the communication state detected by the detecting device and at the predetermined time interval set by the timer~~the extracorporeal device operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting, and wherein a number n of antennas whose receiving and transmitting states are detected is less than a number N of all attached antennas at the time of antenna switching.~~

16. **(Original)** A capsular medical system according to Claim 15, wherein the antenna who's receiving and transmitting state is checked is determined based on the antenna which currently receives data.

17. **(Currently Amended)** A capsular medical system comprising:

a capsular in-body unit having a radio communication device which is inserted or swallowed to be introduced to the body cavity;

an extracorporeal device comprising ~~having~~ a communication device for communication with the in-body unit, which is arranged outside the human body;

a plurality of antennas connected to the extracorporeal device and ~~which are arranged~~ near the body surface to communicate data to the in-body unit, ~~connected to the extracorporeal device;~~

the extracorporeal device further comprising:

a switching device which switches the antennas;

a timer which is set to a predetermined time interval;

a detecting device which detects, at the predetermined time interval, a communication state including a transmitting state where the extracorporeal device carries out transmission to the in-body unit, for transmitting to, and a receiving state for receiving from, where the extracorporeal device carries out reception from the in-body unit; and

an antenna selecting device which detects a receiving strength of a signal transmitted from the in-body unit by at least two antennas and selects the antenna in a preferable receiving and transmitting state, ~~the capsular medical system further comprising; and~~

a storing device, which stores the communication state detected by the detecting device;~~for storing the receiving and transmitting state,~~

wherein the extracorporeal device synchronizes timing for switching the antenna with

timing for switching communication direction of the receiving and transmitting at the predetermined time interval set by the timer, and when the receiving strength data is not obtainable in the selecting of the antenna by the antenna selecting device, the extracorporeal device refers to the communication state stored in the storing device to control the antenna selecting device to select the antenna that is assured to be communicable, when data on the receiving strength is not obtained upon operating the antenna selecting device, the antenna able to communicate data is detected and selected to carry out the communication, and wherein the extracorporeal device operates the switching device at a switching timing synchronized with switching of communication direction of the receiving and transmitting.

18. **(Previously Presented)** The capsular medical system as set forth in claim 7, wherein the detecting device selects one of the at least two antennas arranged to communicate data to the in-body unit connected to the extracorporeal device, via the switching device, in response to a detected communication state corresponding to movement of the capsular in-body unit in the body cavity.